Ailene MacPherson

CONTACT INFORMATION

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EDUCATION

Ph.D. Candidate: Zoology 2015-current
University of British Columbia
Thesis: Epidemiology of Host-Parasite Coevolution
Advisor: Sarah P. Otto

MSc. Bioinformatics and Computational Biology 2013-2015
University of Idaho
Thesis: Estimating the Strength of Natural Selection from Parallel Evolution
Advisor: Scott L. Nuismer

BSc. Mathematics 2010-2013
University of Idaho

PUBLICATIONS

MacPherson, A., Otto, S.P., Nuismer, S.L., Keeping pace with the Red Queen: Identifying the genetic basis of susceptibility to infectious disease. 2018. *Genetics*

MacPherson, A., Otto, S.P., Joint coevolutionary-epidemiological models dampen Red Queen cycles and alter conditions for epidemics. 2018. *Journal of Theoretical Population Biology*

MacPherson, A., Nuismer, S.L., Natural Selection and the probability of parallel genetic evolution from standing genetic variation. 2017 *Journal of Evolutionary Biology*

MacPherson, A., Hohenlohe, P.A., Nuismer, S.L., Trait dimensionality explains widespread variation in local adaptation. 2015 *Proc. R. Soc. B.*

Nuismer, S.L., **MacPherson, A.**, Rosenblum, E.B., Crossing the threshold: gene-flow, dominance and the critical level of standing genetic variation required for adaptation to novel environments. 2012. *Journal of Evolutionary Biology*

Balemba, O.B., Stenkamp-Strahm, C.H., Cady, J., **MacPherson, A.** High-fat diet-induced neuropathy of enteric nervious ssystem and the effect of Alpha-7 Nicotinic Acetylcholine receptoragonist, DMAB-Anabaseine Dihydrochloride. 2011. *Gastroenterology*

POSTERS AND PRESENTATIONS

March 2019, Workshop: Identifying the genetic basis of Coevolution, ESEB-STN 2019

August 2018, Poster: Dynamics of Coinfection by Distantly Related Pathogens, MacPherson A., Otto S.P., Joy J. ESEB 2018

April 2018, Poster: Density-dependent selection in finite populations, MacPherson A.,de Haas F.J.H., Otto S.P. Evo-WIBO 2018

June 2017, Talk: Finding disease genes in the face of the Red Queen, MacPherson A., Otto S.P., Nuismer S.L. Evolution 2017

May 2017, Talk: Epidemiological dynamics disrupt Red Queen cycles, MacPherson A., Otto S.P., CSEE 2017

April 2016, Poster: A Marriage of the Red Queen to SIR Red King, MacPherson A., Otto S.P., Evo-WIBO 2016

June 2015 Talk: Natural Selection and Probability of Parallel Evolution, MacPherson A., Nuismer S.L., Evolution 2015

April 2014, Talk: Trait dimensionality and local adaptation, MacPherson A., Hohenlohe, P.A., Nuismer S.L., Evo-WIBO 2014

June 2013, Poster: The dimensionality of local adaptation, MacPherson A., Hohenlohe, P.A., Nuismer S.L., Evolution 2013

April 2012, Poster: Crossing the threshold: dominance and adaptation to novel environments, MacPherson A., Nuismer S.L., Rosenblum E.B.,Evo-WIBO-2012

HONORS AND SCHOLARSHIPS

Zoology graduate fellowship- University of British Columbia

Godfrey Hewitt Mobility Award- European Society of Evolutionary Biology

Zoology 4-Year fellowship- University of British Columbia

Bioinformatics and Computational Biology Graduate Fellowship-University of Idaho

Outstanding Senior in Mathematics-University of Idaho

College of Science Dean Award-University of Idaho

Undergraduates in Biology and Mathematics Fellowship- University of Idaho

National Merit Scholar 2010

OUTREACH

Zoology Graduate Student Association-President

V.M. Srivastava Women in Science Memorial Fund Over-site Committee-Member

Idaho Women in Math and Science K-12 Program-Volunteer

TEACHING

2018: Teaching Assistant, Biostatistics- University of British Columbia

2017: Teaching Assistant, Parasitology- University of British Columbia

2016: Teaching Assistant, Evolutionary Ecology- University of British Columbia

2015: Teaching Assistant, Biomathmatics- University of British Columbia

2009-2010: Teaching Assistant, Calculus I,II, and Ordinary Differential Equations- University of Idaho